

Preposition drop in Greek: A case for pseudo-incorporation

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1 Introduction

- P(reposition)-drop in Greek (terminology of Ioannidou and den Dikken 2009):¹
The apparent optionality of the preposition *se/s* ‘at’ in certain contexts ((1)).

- (1) a. Pame (stin) paralia?
go.1PL at.the beach.ACC
‘Shall we go to the beach?’
b. Tha mino (sto) spiti.
FUT stay.1SG at.the house.ACC
‘I will stay (at) home.’

- P-drop is contingent upon D-drop: when P is missing, so is D (but not the other way round), i.e. the noun is necessarily bare (cf. Ioannidou and den Dikken 2009; Terzi 2010b).
 - Omitting only P leads to ungrammaticality ((2-a)).
 - Omitting only D leads to a different interpretation, that of an indefinite noun ((2-b)).

- (2) a. *Pame tin paralia? / *Tha mino to spiti.
go.1PL the beach.ACC FUT stay.1SG the house.ACC
b. Pame se paralia? / Tha mino se spiti.
go.1PL at beach.ACC FUT stay.1SG at house.ACC
‘Shall we go to a beach?’ / ‘I will stay at a home/house.’

- Two existing accounts – Ioannidou and den Dikken (2009); Terzi (2010b) – propose syntactic treatments of the phenomenon, which rely on unpronounced/silent P and D heads.
- We propose a semantic analysis, which capitalizes on two key properties of the phenomenon:
 1. The observed dependence of P-drop on D-drop
 2. The interpretative resemblance of P-drop to incorporated properties:
(1-a) is a suggestion for beach-going (cf. Valioui and Psaltou-Joycey 1994).

⇒ **P-drop is an instance of pseudo-incorporation** (in the sense of Massam 2001; Dayal 2011).

Pseudo-/ semantic incorporation: A family of phenomena which display semantic but not syntactic properties of incorporation in the sense of Baker (1988) (see Farkas and de Swart 2003; Dayal 2011; Espinal and McNally 2011, for Hungarian, Hindi, Catalan/Spanish).

- (3) a. Busco piso. / Busco pis.
look.for.1SG apartment look.for.1SG apartment
‘I am looking for an apartment.’ (Spanish/Catalan; Espinal and McNally 2011)
b. Mari belyeget gujt.
Mari stamp.ACC collects
‘Mari collects stamps.’ (Hungarian; Farkas and de Swart 2003)

¹From a cross-linguistic perspective, P-drop is rather exceptional. It has also been reported for the Northern Italian dialects Veneto (Longobardi 2001), Bellinzonese and Paduan (Cattaneo 2009), as well as for Kiezdeutsch, a sociolect spoken in German urban areas (Wiese et al. 2009). Furthermore, Myler (2011) reports that in some British English dialects, P can be dropped in particular environments, though this is not contingent on D-drop. We will only discuss the properties of the Greek construction here.

- Structure of the talk:
 - Section 2: The empirical facts: The resemblance to pseudo-incorporation
 - Section 3: The proposal
 - Section 4: Conclusion and outlook

2 The empirical facts

2.1 Lexical restrictions

- Only *se* ‘at’ can be dropped, no other (locative or directional) Ps (Terzi 2010b):

- (4) a. Efiga *(apo to) spiti / grafio.
left-1SG from the home.ACC office.ACC
- b. Imun *(kato apo tin) karekla.
was-1SG under from the chair.ACC
‘I was under the chair.’

- Only certain nouns:

- Terzi (2010b):

- * P-drop is possible with nouns that can be interpreted as locations, e.g. *house, school, beach, university* ((5)).
- * P-drop is not possible with means of transportation (e.g. *car, plane*), nor with parts of locations (e.g. *garage, balcony, garden*) ((6)).

- (5) a. Pao gymnastirio / sxolio / grafio / eklisia.
go-1SG gym.ACC school.ACC office.ACC church.ACC
- b. Emina gymnastirio / sxolio / grafio / eklisia mexri arga.
stayed-1SG gym.ACC school.ACC office.ACC church.ACC until late
- (6) a. *Pao/ime treno / leoforio / plio / aeroplano.
go-1SG/am train.ACC bus.ACC ship.ACC plane.ACC
intended: ‘I go by train / bus / ship / plane.’
- b. *Imun balkoni otan egine o sismos.
was-1SG balcony.ACC when occurred the earthquake
intended: ‘I was at/on the balcony when the earthquake occurred.’

→ We follow Terzi in assuming that the noun itself has to be able to be interpreted as a location (see below for a slight amendment).

- Only PP-argument-taking verbs:

- Verbs of directed motion that take PP arguments, e.g. *go, come, arrive, enter, return, bring* ((1-a), (5-a), (7-a,b))
- Verbs of location that take PP arguments, e.g. *be, stay* ((1-b), (5-b), (7-c))
- No PP adjuncts (cf. Terzi 2010b) ((8-a))
- No manner of motion verbs ((8-b))²

- (7) a. Ftano panepistimio.
arrive.1SG university.ACC
‘I am arriving at the university.’

²Since Greek is a verb-framed language, manner of motion verbs can only combine with PP adjuncts; see Section 3.

- b. Epistrefume kendro.
return.1PL centre.ACC
'We are coming back downtown.'
- c. Ime tualeta.
am toilet.ACC
'I am in the loo.'
- (8) a. *Sinithos troo gymnastirio / sxolio / grafio.
usually eat.1SG gym.ACC school.ACC office.ACC
intended: 'I usually eat at the gym/school/office.'
- b. *Perpatisa / xorepsa / periplanithika gymnastirio / sxolio / grafio /
walked danced meandered gym.ACC school.ACC office.ACC
ekklisia.
church.ACC
intended: 'I walked/danced/meandered at/in the gym/school/office/church.'

2.2 Semantic properties

P-drop in Greek displays hallmark properties of incorporation (cf. Mithun 1984; Baker 1988; van Geenhoven 1998; Chung and Ladusaw 2003; Dayal 2011, among others):

- The noun obligatorily takes narrow scope with respect to quantificational elements in the clause.
 - (9-a) can only mean that Anna will not go to any beach, where the negation takes scope over 'beach', and not that there is a specific beach that Anna will not go to.
 - (9-b) allows for different beaches that each one went to, where the universal quantifier takes wide scope again.

- (9) a. I Anna de tha pai paralia.
the Anna NEG FUT go.3SG beach.ACC
'Ana will not go to the beach.'
- b. Exun oli pai paralia.
have.3PL all.PL gone beach.ACC
'They have all gone to the beach.'

- The noun does not introduce a discourse referent:
 - It cannot support pronominal anaphora ((10)).³

- (10) Pao paralia. #Tin episkeptome sixna.
go.1SG beach.ACC her.CL visit.1SG often
'I am going to the beach. #I visit it often.'

³Ioannidou and den Dikken (2009) report that pronominal anaphora in (10) is fine. The speakers we have consulted do not agree on this judgment, however. We believe that, to the extent that (10) is tolerable, it is due to accommodation (on which see Espinal and McNally 2011). Ioannidou and den Dikken also claim that the noun in P-drop introduces a discourse referent; this may have to do with the fact that the most natural translation into English is with a definite NP. However, this overlooks the fact that the English definite nominals in question are weak definites, which are known to not introduce discourse referents, and which, in general, share many properties with the bare nouns that appear in P-drop or bare singular nouns in other languages (see, for instance, Carlson et al. 2006; Aguilar Guevara and Zwarts 2011).

- The noun cannot be modified ((11-a,b)), except by type/kind modification (for some speakers) ((12)).

- (11) a. *Pigame kondini paralia / kenurjo jimnastirio / omorfi eklisia .
 went.1PL nearby beach.ACC new gym.ACC beautiful church.ACC
intended: ‘We went to the nearby beach/new gym/beautiful church.’
 b. *Exun pai taxidromio to opio apexi elaxista apo do.
 have.3PL gone post-office.ACC which is.away least from here
intended: ‘They have gone to the post office which is very close to here.’

- (12) Ichame pai arxeolojiko musio / kendriko taxidromio.
 had.1PL gone archaeological museum.ACC / central post-office.ACC
 ‘We had gone to the archaeological museum/central post office.’

- In P-drop, the verb and the noun together name an institutionalized activity or state, which is typical for incorporation (Mithun 1984; Dayal 2011).

- The noun has to refer to an institutionalized location, namely to a location that is moved to/ spent time at on a regular basis in order to perform some institutionalized activity there.

→ This makes sense of the lexical restriction to certain nouns, discussed in Section 2.1.

⇒ P-drop displays a number of semantic properties (narrow scope, lack of discourse referent, no token modification) that align it with incorporation. In all the above-noted respects, the bare nouns in P-drop differ from regular definite and indefinite noun phrases.

2.3 Syntactic properties

P-drop is more permissive than syntactic incorporation, analysed in terms of head-to-head movement by Baker (1988):

- Strict adjacency is not required.
 - The noun can be topic- or focus-preposed ((13-a)).
 - The noun can be separated from the verb by adverbials ((13-b)).
 - A direct object noun phrase can intervene between the verb and the noun ((13-c)).

- (13) a. Paralia tha pao, sxolio omos oxi.
 beach.ACC FUT go.1SG school however no
 ‘To the beach I will go, but to school not.’
 b. Tha pao ki ego / sigura / avrio paralia.
 FUT go.1SG and I definitely tomorrow beach.ACC
 ‘I will go to the beach too/definitely/tomorrow.’
 c. Pigame ton Kosta nosokomio.
 took.1PL the Kosta.ACC hospital.ACC
 ‘We took Kosta to the hospital.’

- The noun is case-marked for accusative case (ACC).
 (The same holds for Hungarian pseudo-incorporated nouns; see Farkas and de Swart 2003.)

⇒ P-drop displays properties of pseudo-incorporation (see Massam 2001 on Niuean, Farkas and de Swart 2003 on Hungarian, Dayal 2011 on Hindi).

3 The proposal

We propose to analyze P-drop as an instance of pseudo-incorporation.

- The semantics:

- (14) a. $go = \lambda x \lambda y \lambda e [\mathbf{go}(e) \wedge \text{THEME}(e) = y \wedge \text{TRACE}(e)(1) \text{ is at } x]$
 b. $go_{inc} = \lambda P \lambda y \lambda e [P\text{-}\mathbf{go}(e) \wedge \text{THEME}(e) = y]$,
 where $\exists e [P\text{-}\mathbf{go}(e)] = 1$ iff $\exists e_0 [\mathbf{go}(e_0) \wedge \exists x [P(x) \wedge \text{TRACE}(e_0)(1) \text{ is at } x]]$

- A directed motion verb like *go* lexically specifies a motion event (building on Krifka 1998; Zwarts 2005) ((14-a)).
 - * A theme (*y*) undergoes a change of location.
 - * At the final point (i.e. 1 in (14)) of the trace of such a directed motion event, the theme is located at a location to be provided (*x*).
- Pseudo-incorporation involves the event predicate go_{inc} , which is modified by a property *P* (building on Dayal 2011) ((14-b)).
 - * The bare noun denotes this property *P*.
 - * Presupposition: There exists an event kind (e_0) built on the lexical entry of non-incorporating *go* (as in (14-a)) with the final location at *x*.

- The syntax:

- The bare noun in P-drop contexts is an NP, which adjoins to VP at LF ((15)).

- (15) $[_{IP} I [_{VP} [_{NP} \text{beach}] go]]$

- The proposal accounts for the empirical facts, discussed in the previous section:

- The bare noun is a predicate (denotes a property rather than an individual).
 → No discourse referent, pronominal anaphora, token modification⁴
- The condition in (14-b) has to be met that there exists an event of the appropriate kind.
 → Only nouns that name locations at which institutionalized activities take place are acceptable in P-drop contexts.
- Incorporation can only take place from within the VP.
 → Only Ps from PP-arguments, which are base-generated within the VP, can be dropped, not from PP-adjuncts, which are base-generated outside the VP (cf. Hoekstra 1999, i.a.).
- The incorporated noun is a phrase not a head.
 → It can move (topic/focus-prepose) as a phrase and is in general syntactically freer than syntactically incorporated nouns in the contexts discussed by Baker and others.

- An initial worry:

- Pseudo-incorporation commonly targets direct objects, which are commonly analyzed as NPs or NumPs which do not involve more functional structure.
- In our examples the target seems to be the complement of a preposition.
- For pseudo-incorporation to be possible, no D or P head can be syntactically realized.

⇒ P-drop does not involve structurally represented (but phonetically unpronounced) P or D heads (contra Ioannidou and den Dikken 2009; Terzi 2010b).

⁴Kind modification is available, since it does not modify an individual (as a first-order modifier) but is a predicate modifier that serves to restrict the property denoted by the bare noun (see, for instance, McNally and Boleda 2004).

3.1 On the absence of D

- As we have already seen, bare nouns in P-drop contexts do not behave like (in)definites: They are discourse opaque and display narrowest scope (recall (9), (10)).
- Independently of P-drop, Alexopoulou and Folli (2011) (A&F) have argued extensively against an unpronounced (definite or indefinite) D in Greek.

– There are a number of semantic differences between bare and non-bare nouns, which do not follow if both kinds of nominals involve a D head and the only difference relates to whether this head is pronounced or not.

– E.g. de dicto (opaque) / de re (transparent) readings:

* Indefinites allow for both readings ((16-a)).

* Bare nouns only admit the opaque reading ((16-b)).

(A&F show that this kind of asymmetry is general in Greek and also holds outside of intensional contexts.)

- (16) a. I Maria theli na pandrefti enan Italo.
 the Maria want.3SG SUBJ marry.3SG one.ACC Italian
 ‘Maria wants to marry an Italian.’ *ambiguous*
- b. I Maria theli na pandrefti Italo.
 the Maria want.3SG SUBJ marry.3SG Italian
 ‘Maria wants to marry an Italian.’ *only opaque*

- A&F dismiss an incorporation approach (along the lines of Espinal and McNally 2011) for Greek bare nouns, arguing that these are semantic and syntactic arguments.

– Their bare nouns are discourse-transparent ((17)).

- (17) Telika vrike dada; ti gnorisame xtes sto party tis Yotas.
 finally found.3SG nanny her.CL met.1PL yesterday at.the party the.GEN Yota.GEN
 ‘S/he finally found a nanny; we met her yesterday at Yotas party.’

– Their bare nouns apparently allow token modification ((18-a)).

– Their bare nouns are not number neutral ((18-b)), which is a property usually associated with incorporated properties (e.g. Farkas and de Swart 2003).

- (18) a. Agorasa akrivo aftokinito.
 bought.1SG expensive car
 ‘I bought an expensive car.’
- b. Mazevi *gramatosimo/gramatosima.
 gathers stamp/stamps.
 ‘S/he collects stamps.’

- Question: If bare nouns in Greek are arguments and not incorporated properties, and if at the same time no unpronounced D head is involved, what is responsible for turning NP-predicates into NP-arguments in Greek?

→ A&F propose that in Greek the relevant head is not D but Number.

→ Greek bare nouns are Num(ber)Ps at most.

- Systematic differences between the bare nouns that A&F focus on, and the bare nouns that appear in P-drop:
 - Bare nouns in P-drop are discourse-opaque (modulo accommodation) (recall (10)).
 - Bare nouns in P-drop do not allow (token) modification (recall (11)).
 - Singular bare nouns in P-drop seem to be number neutral, since they are also compatible with a plural interpretation (not only a singular/atomic one) ((19)).

(19) To proi pigame paralia: i misi sto Marvovuni ki i ali misi
 the morning went. 1PL beach the half.NOM to.the Mavrovuni and the other half.NOM
 sta Trinisa.
 to.the Trinisa
 ‘In the morning we went to the beach: half of us to Mavrovuni and the other half to
 Trinisa.’

- ⇒ The landscape of bare nouns in Greek is not uniform: It includes both NumPs and (smaller) NPs, which incorporate into the verb in the case of P-drop.⁵
- ⇒ This does not affect the arguments adduced by A&F concerning the absence of a D layer in Greek bare nouns. Since this argument is based on argument-denoting bare nouns, it holds a fortiori for predicate-denoting bare nouns.

3.2 On the absence of P

- Cross-linguistically, the structure of locative and directional PPs is commonly assumed to minimally involve respectively a PlaceP (headed by a locative P) and a PathP on top of that (headed by a directional P) (Jackendoff 1983; van Riemsdijk 1990, and many afterwards).
- We believe that both layers are structurally missing in P-drop contexts.

3.2.1 On the absence of PathP

- The verb lexicalizes the path structure associated with prepositions (e.g. *to*) elsewhere.
 - Greek is a verb-framed language (in the sense of Talmy 1985) (see, e.g., Horrocks and Stavrou 2007); in such languages, motion verbs conflate motion and Path: the Path meaning is part of the verbal meaning (cf. Gehrke 2008).
 - Such change of location verbs fall under Rappaport Hovav and Levin’s (2010) result verbs, which specify a scalar change, i.e. change along one ordered dimension (a path).
 - Final locations on this path (i.e. goals) are expressed by locative PPs.

⇒ This makes sense of the restriction of P-drop to particular verbs:

- Directed motion verbs (e.g. *go, reach, return*) allow P-drop.
- Manner of motion verbs (e.g. *swim, dance, meander*) do not allow P-drop (recall (8-b)).
 - * In verb-framed languages, manner of motion verbs cannot combine with Path expressions to refer to a directed motion event.

⁵A detailed comparison of the different classes of bare nouns in Greek will have to await future research (see Lazaridou-Chatzigoga 2011, for preliminary discussion).

- * PPs headed by *se* ‘at’ in combination with manner of motion verbs can only refer to the location of the entire event (PP adjuncts); they cannot be interpreted as referring to the goal of a directed motion event (PP arguments) ((20)).⁶

(20) Perpatisa / xorepsa *(sto/stin) gymnastirio / sxolio / grafito /
 walked danced at-the.NEU/FEM gym.ACC school.ACC office.ACC
 eklisia.
 church.ACC
 ‘I walked/danced at/in the gym/school/office/church.’

⇒ In verb-framed languages, there is no need (or motivation) to treat the overt PP as a PathP.

- Greek *se* ‘at’ is unambiguously locative (following Terzi 2010b): it heads a PlaceP (see also Alexiadou and Anagnostopoulou 2011).
- No (silent) PathP is projected above *se*, also not when *se* is overt (contra Terzi 2010b).

⇒ In P-drop contexts we can assume that PathP is absent as well.

3.2.2 On the absence of PlaceP

- Recall:
 - Only *se* ‘at’ can be dropped.
 - No other Ps (e.g. ‘under’, ‘behind’, ‘in front of’, ‘above’) can be dropped.
- Zwarts (2008, 2010):
 - AT conveys the most basic and the least semantically loaded locative meaning.
 - Other locative Ps encode additional lexical meanings, such as containment, support, or projective meanings.
- Where does the meaning of location (AT) come from?

Option 1: AT is part of the lexical specification of directed motion verbs, recall (14-a).

 - But then we might expect P-drop to be much more widespread cross-linguistically.

Option 2: AT is contributed by the noun, which is interpreted as a location.

Thus, *at* can be dropped.

 - Our holy grail question: What makes a good institutionalized location?
 (The answer may not be strictly linguistic.)

⇒ In P-drop, P is truly absent, and the noun alone provides the (stereotypical) location.

- Ioannidou and den Dikken’s (2009) arguments against the radical absence of P from the syntax:
 - Ps are θ -role assigners, the NP receives its θ -role from P.

⁶The fact that *se* can only be interpreted locatively in combination with ‘atelic’ manner of motion verbs is discussed in detail by Alexiadou and Anagnostopoulou (2011). They furthermore argue that some manner motion verbs can combine with directional PPs headed by, e.g., *mexri/eos* ‘up to’, *apo* ‘from, off’, to form resultative / goal-of-motion constructions. Even under the assumption that Talmy’s distinction between verb-framed and satellite-framed languages should be abandoned or rethought, the main point of this paper is still valid: In combination with manner of motion verbs, *se* can only be interpreted locatively and hence can only head a PP adjunct, not a PP argument. Since furthermore only *se* can be dropped in the first place, other Ps with manner of motion verbs are irrelevant here.

- The verb is not capable of assigning a θ -role.
- The only way out: Otherwise unaccusative verbs such as ‘go’ switch to transitive verbs in these contexts. This, however, cannot be the case because nouns in P-drop contexts cannot be medialized or passivized.
- We counter these arguments:
 - It could be argued that the verb itself (not P) assigns a goal or location theta role to the noun.
 - The noun in P-drop cannot be medialized/passivized, because it is non-referential; in this respect it behaves on a par with pseudo-incorporated direct objects.

4 Conclusion

- So far, pseudo-incorporation has only been discussed for nouns in direct object position.
- Our data show that it is feasible to extend this account also to nouns that otherwise appear in argument PPs.
- Pseudo-incorporation is a means to describe an institutionalized activity/state/motion – akin to weak definites in other languages (cf. Carlson et al. 2006; Aguilar Guevara and Zwarts 2011).
- Open questions:
 - How does P-drop fit in the typology of bare nouns in Greek? Are there other cases of (pseudo-)incorporation in Greek?
 - What about P-drop in other varieties (Longobardi 2001; Cattaneo 2009; Wiese et al. 2009)?
 - Why is P-drop so rare?
 - The exceptionality of *home* / Greek *spiti* ‘house’:
 - * Other languages allow something like P-drop only with the noun *home* (e.g. German *(da)heim*, Russian *doma, domoj*) (cf. Jackendoff 1993; Collins 2007, on English).
 - * Only *spiti* allows modification by possessives (cf. Terzi 2010b); (21-a).
 - * Only *spiti* defies the restriction against adjuncts; (21-b).

- (21) a. *Ime spiti mu / tu / tis.*
 am home.ACC my his her
 ‘I am at my/his/her place.’
- b. *Sinithos troo spiti.*
 usually eat.1SG home.ACC
 ‘I usually eat (at) home.’

- What about case?⁷
 - * Tentative assumption: ACC is assigned by the verb in a particular structural configuration, namely VP-internally under Spec-head agreement, given that we assume the noun to move to Spec, VP at LF (see also Myler 2011, for a similar claim).⁸

⁷Note that case is also a concern for Ioannidou and den Dikken (2009): given the assumption that null Ps and unaccusative verbs are case-featureless, they rely on a last resort mechanism, namely Spec-Head agreement of the noun with the D, after movement of the former into Spec, DP. However, as Lechner and Anagnostopoulou (2005) observe, Spec, DP is only occupied by possessors in Greek, and it can be argued that it does so without having moved there. This makes the last resort mechanism suggested by Ioannidou and den Dikken more unlikely to be correct.

⁸That ACC inside PPs does not necessarily have to be analyzed as being assigned by P is argued for in more detail by Arsenijević and Gehrke (2009).

References

- Aguilar Guevara, Ana and Joost Zwarts: 2011, 'Weak definites and reference to kinds', in *Proceedings of SALT 20*, 179–196.
- Alexiadou, Artemis and Elena Anagnostopoulou: 2011, 'The locative inversion cross-linguistically: Implications for resultative formation'. Paper presented at the Workshop on Verbal Elasticity, Barcelona, October 2011.
- Alexopoulou, Theodora and Raffaella Folli: 2011, 'Topic-strategies and the internal structure of nominal arguments in Greek and Italian'. Ms. University of Cambridge and University of Ulster.
- Arsenijević, Boban and Berit Gehrke: 2009, 'Accusative case in PPs', in *Proceedings of IATL 24 (October 2008)*, *The Hebrew University of Jerusalem*.
- Baker, Mark C.: 1988, *Incorporation: A Theory of Grammatical Function Changing*. University of Chicago Press, Chicago.
- Carlson, Greg, Rachel Sussman, Natalie Klein, and Michael Tanenhaus: 2006, 'Weak definite noun phrases', in C. Davis, A. R. Deal, and Y. Zabbal (eds.), *Proceedings of NELS 36*. GLSA, Amherst, MA.
- Cattaneo, Andrea: 2009, *It is all about clitics: The Case of a Northern Italian Dialect like Bellinzonese*, Doctoral Dissertation, New York University.
- Chung, Sandra and William Ladusaw: 2003, *Restriction and Saturation*. MIT Press, Cambridge, MA.
- Collins, Chris: 2007, 'Home sweet home', *NYU Working Papers in Linguistics* **1**, 1–34.
- Dayal, Veneeta: 2011, 'Hindi pseudo-incorporation', *Natural Language and Linguistic Theory* **29.1**, 123–167.
- Espinal, M. Teresa and Louise McNally: 2011, 'Bare nominals and incorporating verbs in Spanish and Catalan', *Journal of Linguistics* **47**, 87–128.
- Farkas, Donka and Henriëtte de Swart: 2003, *The Semantics of Incorporation: From Argument Structure to Discourse Transparency*. CSLI Publications, Stanford, CA.
- van Geenhoven, Veerle: 1998, *Semantic Incorporation and Indefinite Descriptions*. CSLI, Palo Alto.
- Gehrke, Berit: 2008, *Ps in Motion: On the Syntax and Semantics of P Elements and Motion Events*, Doctoral Dissertation, Utrecht University. LOT Dissertation Series 184.
- Hoekstra, Teun: 1999, 'Auxiliary selection in Dutch', *Natural Language and Linguistic Theory* **17**, 67–84.
- Horrocks, Geoffrey and Melita Stavrou: 2007, 'Grammaticalized aspect and spatio-temporal culmination', *Lingua* **117.4**, 605–644.
- Ioannidou, Alexandra and Marcel den Dikken: 2009, 'P-drop, D-drop, D-spread', in C. Halpert, J. Hartman, and D. Hill (eds.), *Proceedings of the 2007 Workshop in Greek Syntax and Semantics*, 393–408. MIT Press, Cambridge, MA.
- Jackendoff, Ray: 1983, *Semantics and Cognition*. MIT Press, Cambridge, MA.
- Jackendoff, Ray: 1993, 'Home is subject to Principle A', *Linguistic Inquiry* **24.1**, 173–177.
- Kayne, Richard: 2004, 'Here and there', in C. Leclère, E. Laporte, M. Piot, and M. Silberstein (eds.), *Lexique, Syntaxe et Lexique-Grammaire / Syntax, Lexis and Grammar: Papers in Honor of Maurice Gross*, 253–275. John Benjamins, Amsterdam.
- Kayne, Richard: 2005, *Movement and Silence*. Oxford University Press, Oxford.
- Krifka, Manfred: 1998, 'The origins of telicity', in S. Rothstein (ed.), *Events and Grammar*, 197–235. Kluwer, Dordrecht.
- Lazaridou-Chatzigoga, Dimitra: 2011, 'The distribution and interpretation of bare singular count nouns in Greek'. Paper presented at the SuB satellite workshop on weak referentiality, Utrecht, September 2011.
- Lechner, Winfried and Elena Anagnostopoulou: 2005, 'Clitics and adjacency in Greek PPs', in H. Broekhuis, N. Corver, R. Huybregts, U. Kleinhenz, and J. Koster (eds.), *Organizing Grammar: Linguistic Studies in Honor of Henk van Riemsdijk*, 390–406. Mouton de Gruyter, Berlin.
- Lekakou, Marika and Kriszta Szendrői: 2012, 'Polydefinites in Greek: Ellipsis, close apposition and expletive determiners', *Journal of Linguistics* **48**, 107–149.
- Longobardi, Giuseppe: 2001, 'Formal syntax, diachronic minimalism and etymology: The history of French *chez*', *Linguistic Inquiry* **32**, 275–302.
- Massam, Diane: 2001, 'Pseudo noun incorporation in Niuean', *Natural Language and Linguistic Theory* **19**, 153–197.
- McNally, Louise and Gemma Boleda: 2004, 'Relational adjectives as properties of kinds', in O. Bonami and P. C. Hofherr (eds.), *Empirical Issues in Formal Syntax and Semantics 5*, 179–196. <http://www.cssp.cnrs.fr/eiss5>.
- Mithun, Marianne: 1984, 'The evolution of noun incorporation', *Language* **60**, 847–894.
- Myler, Neil: 2011, 'Come the pub with me: Silent TO in a dialect of British English', *NYU Working Papers in Linguistics* **3**, 120–135.
- Pantcheva, Marina: 2011, 'The syntactic structure of locations, goals, and sources', *Linguistics* **48.5**, 1043–1081.
- Rappaport Hovav, Malka and Beth Levin: 2010, 'Reflections on manner/result complementarity', in E. Doron, M. Rappaport Hovav, and I. Sichel (eds.), *Syntax, Lexical Semantics, and Event Structure*, 21–38. Oxford University Press, Oxford.
- van Riemsdijk, Henk: 1990, 'Functional prepositions', in H. Pinkster and I. Genée (eds.), *Unity in Diversity: Papers Presented to Simon C Dik on his 50th Birthday*. Foris, Dordrecht.

- Svenonius, Peter: 2010, 'Spatial P in English', in G. Cinque and L. Rizzi (eds.), *Mapping Spatial PPs: The Cartography of Syntactic Structures 6*, 127–160. Oxford University Press, Oxford.
- Talmy, Leonard: 1985, 'Lexicalization patterns: Semantic structure in lexical forms', in T. Shopen (ed.), *Language Typology and Syntactic Description III: Grammatical Categories and the Lexicon*, 57–149. Cambridge University Press, Cambridge.
- Terzi, Arhonto: 2010a, 'Locative prepositions and *Place*', in G. Cinque and L. Rizzi (eds.), *Mapping Spatial PPs: The Cartography of Syntactic Structures 6*, 196–224. Oxford University Press, Oxford.
- Terzi, Arhonto: 2010b, 'On null spatial Ps and their arguments', *Catalan Journal of Linguistics* **9**, 167–187.
- Valioui, Maria and Angeliki Psaltou-Joycey: 1994, 'Pame plateia? Hrisi I apousia tou emprothetou arthrou [Pame plateia? Use or absence of the definite article]', in *Proceedings of the 15th Annual Meeting of the Department of Linguistics, Thessaloniki*, 292–303. School of Philology, Aristotle University of Thessaloniki.
- Wiese, Heike, Ulrike Freiwald, and Katharina Mayr: 2009, *Kiezdeutsch as a Test Case for the Interaction between Grammar and Information Structure*, Interdisciplinary Studies on Information Structure (ISIS) 12. Potsdam University Press, Potsdam.
- Zwarts, Joost: 2005, 'Prepositional aspect and the algebra of paths', *Linguistics and Philosophy* **28.6**, 739–779.
- Zwarts, Joost: 2008, 'Priorities in the production of prepositions', in A. Asbury, J. Dotlačil, B. Gehrke, and R. Nouwen (eds.), *Syntax and Semantics of Spatial P*, 85–102. John Benjamins, Amsterdam.
- Zwarts, Joost: 2010, 'Semantic map geometry: Two approaches', *Linguistic Discovery* **8.1**, 377–395.

A A brief comparison with previous accounts

- Where and why we depart from both Ioannidou and den Dikken (2009); Terzi (2010a):
 - There is no empty PathP in Greek (for the reasons discussed above).
 - We do not think that purely syntactic accounts, which assume the same overall syntactic structure and lexical items (whether they are pronounced or not) for P-drop that they assume for cases involving overt Ps and Ds, can do justice to the semantics and in particular to the interpretative differences between P-drop and overt P and D contexts.

A.1 Ioannidou and den Dikken (2009) (I&dD)

- Their proposal:
 - P-drop always involves a silent TO, which has to be licensed by incorporation into the verb.
 - This would correctly predict that P-drop is restricted to PP arguments (although this is not mentioned in I&dD).
 - P drop is allegedly banned with particle verbs (e.g. (22)): The position into which the P has to move is already occupied by the particle.
- (22) Particle verbs that do not allow P-drop (according to Ioannidou and den Dikken 2009): *ana-dhyome* 'emerge', *kata-dhyome* 'submerge', *kata-reo* 'collapse', *eks-aplonome* 'spread'
- Our points of criticism:
 - P-drop in these contexts is already banned semantically: The final locations of such motion events cannot be described simply by an *at*-phrase.
 - * The PP arguments combining with these verbs involve *from* (*emerge*), *under* or *into* (*submerge*, *collapse*), and *across* (*spread*).
 - * The fact that these motion events involve different prepositional meanings is already evident from the lexical semantics of the particles themselves, which commonly match the respective Ps semantically: *ana*- 'up', *kata*- 'down', *ekso*- 'outward'.

- I&dD run into problems with particle verbs that do allow P-drop (e.g. (23)) and have to stipulate the re-interpretation of the particle-verb complex as a simple verb.

(23) Particle verbs that allow P-drop (according to Ioannidou and den Dikken 2009):
an-evaino ‘ascend’, *epi-strefo* ‘return’, *eks-ago* ‘export’, *is-erhome* ‘enter’

- (I&dD have nothing to say about the lexical restrictions mentioned in Section 2.1.)
- (The account is incomplete, since it only addresses directional contexts, though it could easily be extended to cover locative cases as well.)

A.2 Terzi (2010a)

- Her proposal:

- The structure of a locative PP consists of a functional head P_{Loc} , which takes as its complement an empty nominal, PLACE (in the sense of Kayne 2004, 2005) ((24-a)); (24-b) provides examples of Greek locative Ps modifying PLACE.
- Directional PPs involve an additional functional layer on top of such locative PPs.

(24) a. [PP_{Loc} [P_{Loc} \emptyset [DP \emptyset [XP locative [NP PLACE [DP ground argument]]]]]]
 b. [PP_{Loc} [P_{Loc} [DP \emptyset [XP piso/epano/dipla [NP PLACE [DP tu]]]]]]
 ‘behind/on/beside him’

- P-drop: The arguments of null Ps are direct instantiations of PLACE ((25)).

(25) [P_{PredP} [P_{Pred} \emptyset [VP V [PP_{Goal} [P_{Goal} \emptyset [PP_{Loc} [DP spiti₁/grafio₁ etc.] [P_{Loc} \emptyset t₁]]]]]]]]

- In order to render the Edge of the silent Ps (P_{Loc} , and additionally P_{Goal} in directional contexts) overt, the nominals that instantiate PLACE move to Spec, P_{Loc} (and further Spec, P_{Goal}). (This move is inspired by Collins’s (2007) account of English *home*.)
- Subsequent movement of PP_{Loc} (PP_{Goal}) into Spec, P_{PredP} takes place.
- The ban on P-drop with source PPs follows from the more complex structure of SourcePPs (building on insights from Svenonius 2010; Pantcheva 2011): Sources involve an additional layer above Goal PPs ((26)).

(26) V [PP_{Source} [P_{Source} apo [PP_{Goal} [P_{Goal} \emptyset [PP_{Loc} [P_{Loc} se/ \emptyset [DP spiti]]]]]]]]
 ‘from home’

- Our points of criticism:

- Treating the nouns in P-drop contexts as instances of PLACE is counter-intuitive:
 - * PLACE items are usually the projective parts (*front*, *hind*, *side*, etc.) of projective prepositions (such as *in front of*, *behind* etc.), but not full-blown lexical nouns.
 - * Given that *at* is a non-projective P, we generally doubt that such Ps even involve PLACE.
- It is not clear why the structure in (26) should ban P drop in source contexts.
 - * In addition to the empty Goal P, we could assume an empty Source P.
 - * If all P heads involved remained empty, the noun would just have to move through another Specifier.